

Claims

- [c1] 1. A firearm projectile assembly apparatus, comprising:
a bullet;
a hollow core running completely through said bullet from a front of said bullet to a rear of said bullet;
a core material within at least part of said hollow core; and
an expansion-inducing tip integral with said core material, and protruding forward of said front of said bullet; wherein:
when said projectile assembly impacts with a target, said expansion-inducing tip drives said core material rearward relative to said hollow core, forcing said bullet to expand radially outwardly.
- [c2] 2. The apparatus of claim 1, said hollow core further comprising:
a rear core diameter thereof proximate a rear of said bullet; and
a front core diameter thereof proximate a front of said bullet; wherein:
said front core diameter is greater than said rear core diameter.
- [c3] 3. The apparatus of claim 2, said hollow core further comprising:
cross-sectional core diameters thereof increasing progressively from said rear of said bullet to said front of said bullet.
- [c4] 4. The apparatus of claim 2; wherein:
said front core diameter is greater than said rear core diameter by at least fifty percent.
- [c5] 5. The apparatus of claim 3; wherein:
said front core diameter is greater than said rear core diameter by at least fifty percent.

- [c6] 6. The apparatus of claim 1, further comprising:
at least one circumferential belt circumscribing part of said bullet.
- [c7] 7. The apparatus of claim 6, said at least one circumferential belt further comprising:
a protective lubricant.
- [c8] 8. The apparatus of claim 1, further comprising:
a bullet engraving surface thereof toward a front of said bullet; and
a primary bullet diameter thereof toward a middle and rear of said bullet;
wherein:
a diameter of said bullet engraving surface is greater than said primary bullet diameter.
- [c9] 9. The apparatus of claim 8, wherein:
said diameter of said bullet engraving surface is approximately equal to a diameter of rifling grooves of a firearm barrel in which said bullet is intended to be used; and
said primary bullet diameter is approximately equal to a bore land diameter of the firearm barrel in which said bullet is intended to be used.
- [c10] 10. The apparatus of claim 9, further comprising a pressure shield, said pressure shield further comprising:
a pressure shield front diameter approximately equal to the bore land diameter; and
a pressure shield maximum diameter approximately equal to the diameter of the rifling grooves.
- [c11] 11. The apparatus of claim 10, wherein:
said pressure shield maximum diameter exceeds said diameter of said

bullet engraving surface by at least 0.2%; and
said pressure shield maximum diameter exceeds said diameter of said
bullet engraving surface by at most 0.7%.

[c12] 12. The apparatus of claim 10, said pressure shield further comprising:
a pressure shield rear diameter less than the bore land diameter.

[c13] 13. The apparatus of claim 1, further comprising a pressure shield, said
pressure shield further comprising:
a pressure shield front diameter approximately equal to a bore land
diameter of a firearm barrel in which said bullet is intended to be used; and
a pressure shield maximum diameter approximately equal to a diameter of
rifling grooves of the firearm barrel.

[c14] 14. The apparatus of claim 13, said pressure shield further comprising:
a pressure shield rear diameter less than the bore land diameter.

[c15] 15. The apparatus of claim 1, further comprising:
a pressure shield; and
a non-discarding attachment of said pressure shield to said bullet, such that
after said projectile assembly is fired from a firearm, said pressure shield
does not discard from said bullet during said bullet's flight to a target.

[c16] 16. The apparatus of claim 1, further comprising a pressure shield, said
pressure shield further comprising:
a controlled air space comprising:
powder-excluding protrusions; and
air recesses amidst said powder-excluding protrusions.

[c17] 17. The apparatus of claim 16, said powder exclusions comprising a

configuration selected from the configuration group consisting of:
a honeycomb; an "x"; circles; lattices; and a grid.

[c18] 18. The apparatus of claim 16, said pressure shield further comprising:
said powder-excluding protrusions structurally connecting together a
plurality of locations on an inner wall of said gas check.

[c19] 19. The apparatus of claim 1, further comprising a pressure shield, said
pressure shield further comprising:
a solid, porous material;
an air space comprising pores of said solid, porous material; and
the solid nature of said solid, porous material substantially excluding
powder from said air space.

[c20] 20. The apparatus of claim 1, further comprising:
said core material substantially filling only part of said hollow core; and
said hollow core comprising an unfilled chamber cavity unfilled by said core
material.

[c21] 21. The apparatus of claim 1, further comprising:
said core material substantially filling all of said hollow core.

[c22] 22. The apparatus of claim 1, said expansion-inducing tip comprising:
a driving wedge proximate a rear of said expansion-inducing tip, for driving
into and expanding said hollow, responsive to said expansion-inducing tip
striking a target.

[c23] 23. The apparatus of claim 1, further comprising a bullet assembly
comprising:
said bullet; and

said hollow core running completely through said bullet.

- [c24] 24. The apparatus of claim 1, further comprising a pressure shield subassembly comprising:
a pressure shield mating extension inserted into said hollow core proximate said rear of a bullet; and
a pressure shield integrally attached proximate a rear of said pressure shield mating extension, said pressure shield comprising a rearward-oriented gas check.
- [c25] 25. The apparatus of claim 1, further comprising an expansion tip subassembly comprising:
an expansion tip mating extension comprising said core material, inserted into said hollow core proximate said front of said bullet; and
said expansion-inducing tip, integrally attached proximate a front of said expansion tip mating extension.
- [c26] 26. The apparatus of claim 24, further comprising:
an expansion tip subassembly comprising:
an expansion tip mating extension comprising said core material, inserted into said hollow core proximate said front of said bullet; and
said expansion-inducing tip, integrally attached proximate a front of said expansion tip mating extension; and
said pressure shield mating extension mated with said expansion tip mating extension.
- [c27] 27. The apparatus of claim 26, further comprising:
said pressure shield mating extension mated with said expansion tip mating extension such that after said projectile assembly is fired from a firearm,

said pressure shield does not discard from said bullet during said bullet's flight to a target.

- [c28] 28. A firearm projectile assembly apparatus, comprising:
a bullet;
a pressure shield; and
a non-discarding attachment of said pressure shield to said bullet, such that after said projectile assembly is fired from a firearm, said pressure shield does not discard from said bullet during said bullet's flight to a target.
- [c29] 29. The apparatus of claim 28, said pressure shield comprising:
a gas check; and
a controlled air space comprising:
powder-excluding protrusions; and
air recesses amidst said powder-excluding protrusions.
- [c30] 30. The apparatus of claim 29, said powder exclusions comprising a configuration selected from the configuration group consisting of:
a honeycomb; an "x"; circles; lattices; and a grid.
- [c31] 31. The apparatus of claim 29, said pressure shield comprising:
said powder-excluding protrusions structurally connecting together a plurality of locations on an inner wall of said gas check.
- [c32] 32. The apparatus of claim 27, said pressure shield comprising:
a solid, porous material;
an air space comprising pores of said solid, porous material; and
the solid nature of said solid, porous material substantially excluding powder from said air space.

- [c33] 33. The apparatus of claim 28, said pressure shield comprising:
a pressure shield front diameter approximately equal to a bore land diameter of a firearm barrel in which said bullet is intended to be used; and
a pressure shield maximum diameter approximately equal to a diameter of rifling grooves of the firearm barrel in which said bullet is intended to be used.
- [c34] 34. The apparatus of claim 33, said pressure shield comprising:
a pressure shield rear diameter less than the bore land diameter.
- [c35] 35. The apparatus of claim 28, further comprising a bullet assembly comprising:
said bullet; and
said hollow core running completely through said bullet.
- [c36] 36. The apparatus of claim 35, further comprising a pressure shield subassembly comprising:
a pressure shield mating extension inserted into said hollow core proximate said rear of a bullet; and
said pressure shield integrally attached proximate a rear of said pressure shield mating extension, said pressure shield comprising a rearward-oriented gas check.
- [c37] 37. The apparatus of claim 36, further comprising:
said pressure shield mating extension mated with an expansion tip mating extension of an expansion tip subassembly such that said pressure shield does not discard from said bullet.
- [c38] 38. A pressure shield for attachment to a rear of a bullet, comprising:
a gas check; and

a controlled air space comprising:
powder-excluding protrusions; and
air recesses amidst said powder-excluding protrusions.

[c39] 39. The apparatus of claim 38, said powder exclusions comprising a configuration selected from the configuration group consisting of:
a honeycomb; an "x"; circles; lattices; and a grid.

[c40] 40. The pressure shield of claim 38, further comprising:
said powder-excluding protrusions structurally connecting together a plurality of locations on an inner wall of said gas check.

[c41] 41. The pressure shield of claim 38, said pressure shield further comprising:
a pressure shield front diameter approximately equal to a bore land diameter of a firearm barrel in which said bullet is intended to be used; and
a pressure shield maximum diameter approximately equal to a diameter of rifling grooves of the firearm barrel in which said bullet is intended to be used.

[c42] 42. The pressure shield of claim 40, said pressure shield further comprising:
a pressure shield rear diameter less than the bore land diameter.

[c43] 43. A pressure shield for attachment to a rear of a bullet, comprising:
a solid, porous material;
an air space comprising pores of said solid, porous material; and
the solid nature of said solid, porous material substantially excluding powder from said air space.

[c44] 44. A bullet subassembly comprising:
a hollow core running completely through said bullet subassembly from a

front of said bullet subassembly to a rear of said bullet subassembly.

[c45] 45. The bullet subassembly of claim 44, said hollow core comprising:
a rear core diameter thereof proximate a rear of said bullet subassembly;
and
a front core diameter thereof proximate a front of said bullet subassembly;
wherein:
said front core diameter is greater than said rear core diameter.

[c46] 46. The bullet subassembly of claim 45, said hollow core further comprising
cross-sectional core diameters thereof increasing progressively from said
rear of said bullet subassembly to said front of said bullet subassembly.

[c47] 47. The bullet subassembly of claim 45; wherein:
said front core diameter is greater than said rear core diameter by at least
fifty percent.

[c48] 48. The bullet subassembly of claim 46; wherein:
said front core diameter is greater than said rear core diameter by at least
fifty percent.

[c49] 49. The bullet subassembly of claim 44, further comprising:
a bullet engraving surface thereof toward a front of said bullet subassembly;
and
a primary bullet diameter thereof toward a middle and rear of said bullet
subassembly; wherein:
a diameter of said bullet engraving surface is greater than said primary
bullet diameter.

[c50] 50. The bullet subassembly of claim 49, wherein:

said diameter of said bullet engraving surface is approximately equal to a diameter of rifling grooves of a firearm barrel in which said bullet subassembly is intended to be used; and
said primary bullet diameter is approximately equal to a bore land diameter of the firearm barrel in which said bullet subassembly is intended to be used.

[c51] 51. A pressure shield subassembly, comprising:
a pressure shield mating extension for insertion into a hollow proximate a rear of a bullet subassembly, capable of mating with an expansion tip mating extension of an expansion tip subassembly; and
a pressure shield integrally attached proximate a rear of said pressure shield mating extension, said pressure shield comprising a rearward-oriented gas check.

[c52] 52. The pressure shield subassembly of claim 51, said pressure shield further comprising:
a controlled air space comprising:
powder-excluding protrusions; and
air recesses amidst said powder-excluding protrusions.

[c53] 53. The apparatus of claim 52, said powder exclusions comprising a configuration selected from the configuration group consisting of:
a honeycomb; an "x"; circles; lattices; and a grid.

[c54] 54. The pressure shield subassembly of claim 52, said pressure shield further comprising:
said powder-excluding protrusions structurally connecting together a plurality of locations on an inner wall of said gas check.

- [c55] 55. The pressure shield subassembly of claim 51, said pressure shield further comprising:
a solid, porous material;
an air space comprising pores of said solid, porous material; and
the solid nature of said solid, porous material substantially excluding powder from said air space.
- [c56] 56. The pressure shield subassembly of claim 51, said pressure shield further comprising:
a pressure shield front diameter approximately equal to a bore land diameter of a firearm barrel in which said bullet subassembly is intended to be used; and
a pressure shield maximum diameter approximately equal to a diameter of rifling grooves of the firearm barrel in which said bullet subassembly is intended to be used.
- [c57] 57. The pressure shield subassembly of claim 56, said pressure shield further comprising:
a pressure shield rear diameter less than the bore land diameter.
- [c58] 58. The pressure shield subassembly of claim 51, further comprising:
a driving head comprising an acutely-angled tip.
- [c59] 59. The pressure shield subassembly of claim 51, further comprising:
expansion scoring weakening said pressure shield mating extension for driving an acutely-angled tip therethrough.
- [c60] 60. An expansion tip subassembly, comprising:
an expansion tip mating extension for insertion into a hollow proximate a front of a bullet subassembly, capable of mating with a pressure shield

mating extension of a pressure shield subassembly; and
an expansion-inducing tip, integrally attached proximate a front of said
expansion tip mating extension.

- [c61] 61. The expansion tip subassembly of claim 60, further comprising:
a driving wedge proximate a rear of said expansion-inducing tip, for driving
into and expanding said hollow, responsive to said expansion-inducing tip
striking a target.
- [c62] 62. The expansion tip subassembly of claim 61, said driving wedge
configured to fill only part of a hollow core of a bullet subassembly.
- [c63] 63. The expansion tip subassembly of claim 61, said driving wedge
configured to substantially fill all of a hollow core of a bullet subassembly.
- [c64] 64. The expansion tip subassembly of claim 60, further comprising:
a driving head comprising an acutely-angled tip.
- [c65] 65. The expansion tip subassembly of claim 60, further comprising:
expansion scoring weakening said expansion tip mating extension for
driving an acutely-angled tip therethrough.
- [c66] 66. A firearm projectile assembly apparatus, comprising:
a bullet subassembly comprising a hollow core running completely through
said bullet subassembly from a front of said bullet subassembly to a rear of
said bullet subassembly;
a pressure shield subassembly comprising a pressure shield mating
extension, and a pressure shield integrally attached proximate a rear of said
pressure shield mating extension, said pressure shield comprising a
rearward-oriented gas check;

an expansion tip subassembly comprising an expansion tip mating extension and an expansion-inducing tip integrally attached proximate a front of said expansion tip mating extension;
said pressure shield mating extension inserted into the rear of said hollow core;
said expansion tip mating extension inserted into the front of said hollow core; and
said pressure shield mating extension mated with said expansion tip mating extension.

[c67] 67. The apparatus of claim 66, further comprising:
said pressure shield mating extension mated with said expansion tip mating extension such that after said projectile assembly is fired from a firearm, said pressure shield does not discard from said bullet during said bullet's flight to a target.

[c68] 68. The apparatus of claim 66, said hollow core comprising:
a rear core diameter thereof proximate a rear of said bullet subassembly;
and
a front core diameter thereof proximate a front of said bullet subassembly;
wherein:
said front core diameter is greater than said rear core diameter.

[c69] 69. The apparatus of claim 68, said hollow core further comprising cross-sectional core diameters thereof increasing progressively from said rear of said bullet subassembly to said front of said bullet subassembly.

[c70] 70. The apparatus of claim 68; wherein:
said front core diameter is greater than said rear core diameter by at least

fifty percent.

[c71] 71. The apparatus of claim 69; wherein:
said front core diameter is greater than said rear core diameter by at least
fifty percent.

[c72] 72. The apparatus of claim 66, further comprising:
at least one circumferential belt circumscribing part of said bullet
subassembly.

[c73] 73. The apparatus of claim 72, said at least one circumferential belt further
comprising:
a protective lubricant.

[c74] 74. The apparatus of claim 66, further comprising:
a bullet engraving surface thereof toward a front of said bullet subassembly;
and
a primary bullet diameter thereof toward a middle and rear of said bullet
subassembly; wherein:
a diameter of said bullet engraving surface is greater than said primary
bullet diameter.

[c75] 75. The apparatus of claim 74, wherein:
said diameter of said bullet engraving surface is approximately equal to a
diameter of rifling grooves of a firearm barrel in which said bullet
subassembly is intended to be used; and
said primary bullet diameter is approximately equal to a bore land diameter
of the firearm barrel in which said bullet subassembly is intended to be
used.

- [c76] 76. The apparatus of claim 75, said pressure shield further comprising:
a pressure shield front diameter approximately equal to a bore land diameter of a firearm barrel in which said bullet subassembly is intended to be used; and
a pressure shield maximum diameter approximately equal to a diameter of rifling grooves of the firearm barrel in which said bullet subassembly is intended to be used.
- [c77] 77. The apparatus of claim 76, wherein:
said pressure shield maximum diameter exceeds said diameter of said bullet engraving surface by at least 0.2%; and
said pressure shield maximum diameter exceeds said diameter of said bullet engraving surface by at most 0.7%.
- [c78] 78. The apparatus of claim 76, said pressure shield further comprising:
a pressure shield rear diameter less than the bore land diameter.
- [c79] 79. The apparatus of claim 66, said pressure shield further comprising:
a pressure shield front diameter approximately equal to a bore land diameter of a firearm barrel in which said bullet subassembly is intended to be used; and
a pressure shield maximum diameter approximately equal to a diameter of rifling grooves of the firearm barrel in which said bullet subassembly is intended to be used.
- [c80] 80. The apparatus of claim 80, said pressure shield further comprising:
a pressure shield rear diameter less than the bore land diameter.
- [c81] 81. The apparatus of claim 66, said pressure shield further comprising:
a controlled air space comprising:

powder-excluding protrusions; and
air recesses amidst said powder-excluding protrusions.

[c82] 82. The apparatus of claim 81, said powder exclusions comprising a configuration selected from the configuration group consisting of:
a honeycomb; an "x"; circles; lattices; and a grid.

[c83] 83. The apparatus of claim 81, said pressure shield further comprising:
said powder-excluding protrusions structurally connecting together a plurality of locations on an inner wall of said gas check.

[c84] 84. The apparatus of claim 66, further comprising a pressure shield, said pressure shield further comprising:
a solid, porous material;
an air space comprising pores of said solid, porous material; and
the solid nature of said solid, porous material substantially excluding powder from said air space.

[c85] 85. The apparatus of claim 66, said expansion tip subassembly further comprising:
a driving wedge proximate a rear of said expansion-inducing tip, for driving into and expanding said hollow, responsive to said expansion-inducing tip striking a target.

[c86] 86. The apparatus of claim 1, further comprising:
said expansion tip subassembly substantially filling only part of said hollow core; and
said hollow core comprising an unfilled chamber cavity unfilled by said expansion tip subassembly.

[c87] 87. The apparatus of claim 1, further comprising:
said expansion tip subassembly substantially filling all of said hollow core.

[c88] 88. A method of manufacturing a firearm projectile assembly, comprising the steps of:
fabricating a bullet subassembly comprising a hollow core running completely through said bullet subassembly from a front of said bullet subassembly to a rear of said bullet subassembly;
fabricating a pressure shield subassembly comprising a pressure shield mating extension, and a pressure shield integrally attached proximate a rear of said pressure shield mating extension, said pressure shield comprising a rearward-oriented gas check;
fabricating an expansion tip subassembly comprising an expansion tip mating extension and an expansion-inducing tip integrally attached proximate a front of said expansion tip mating extension;
inserting said pressure shield mating extension into the rear of said hollow core;
inserting said expansion tip mating extension into the front of said hollow core; and
mating said pressure shield mating extension with said expansion tip mating extension.

[c89] 89. The method of claim 88, further comprising the step of:
mating said pressure shield mating extension with said expansion tip mating extension such that after said projectile assembly is fired from a firearm, said pressure shield does not discard from said bullet during said bullet's flight to a target.

[c90] 90. A firearm projectile assembly product, produced using a process

comprising the steps of:

fabricating a bullet subassembly comprising a hollow core running completely through said bullet subassembly from a front of said bullet subassembly to a rear of said bullet subassembly;

fabricating a pressure shield subassembly comprising a pressure shield mating extension, and a pressure shield integrally attached proximate a rear of said pressure shield mating extension, said pressure shield comprising a rearward-oriented gas check;

fabricating an expansion tip subassembly comprising an expansion tip mating extension and an expansion-inducing tip integrally attached proximate a front of said expansion tip mating extension;

inserting said pressure shield mating extension into the rear of said hollow core;

inserting said expansion tip mating extension into the front of said hollow core; and

mating said pressure shield mating extension with said expansion tip mating extension.

[c91] 91. The product of claim 90, said process further comprising the step of: mating said pressure shield mating extension with said expansion tip mating extension such that after said projectile assembly is fired from a firearm, said pressure shield does not discard from said bullet during said bullet's flight to a target.

[c92] 92. A method of facilitating loading of a firearm projectile assembly into a front-loading firearm and improving seating and engraving of said firearm projectile assembly within a barrel of said firearm, comprising the steps of: inserting into a front of the barrel, a rear of a pressure shield of said firearm

projectile assembly comprising a pressure shield rear diameter less than a bore land diameter of the barrel;

further inserting into the front of the barrel, a further-forward region of said pressure shield comprising a pressure shield maximum diameter

approximately equal to a diameter of rifling grooves of the firearm barrel;

further inserting into the front of the barrel, a front of said pressure shield comprising a pressure shield front diameter approximately equal to a bore land diameter of the firearm barrel;

further inserting into said front of the barrel, a middle and rear of a bullet of said firearm projectile assembly comprising a primary bullet diameter approximately equal to the bore land diameter; and

further inserting into said front of the barrel, an engraving surface of said bullet comprising an engraving surface diameter approximately equal to the diameter of the rifling grooves.

[c93] 93. A method of ensuring consistent ballistic performance for a firearm projectile assembly fired from a front-loading firearm, comprising the step of:

attaching a pressure shield of said firearm projectile assembly to a bullet of said firearm projectile assembly, such that after said projectile assembly is fired from a firearm, said pressure shield does not discard from said bullet during said bullet's flight to a target.

[c94] 94. A method of ensuring consistent ballistic performance for a firearm projectile assembly fired from a front-loading firearm, comprising the steps of:

inserting a powder charge into a barrel of the firearm;

inserting into the front of the barrel forward of said powder charge, a

pressure shield of said firearm projectile assembly attached to a rear of a bullet of said firearm projectile assembly;
establishing a controlled air space by butting powder-excluding protrusions of said pressure shield against said powder charge while said powder charge is simultaneously substantially prevented from entering air recesses amidst said powder-excluding protrusions; and
transferring pressure from ignition of said powder charge to said bullet via a gas check of said pressure shield.

[c95] 95. The method of claim 94, further comprising the step of:
attaching said pressure shield to said bullet, such that after said projectile assembly is fired from a firearm, said pressure shield does not discard from said bullet during said bullet's flight to a target.

[c96] 96. The method of claim 94, further comprising the step of:
substantially preventing structural deformation of said gas check by connecting together a plurality of locations on an inner wall of said gas check via said powder-excluding protrusions.

[c97] 97. The method of claim 94, further comprising the step of:
establishing said air space within pores of a solid, porous material comprising said pressure shield; and
controlling said air space using the solid nature of said solid, porous material to provide said powder-excluding protrusions substantially excluding powder from said air space.

[c98] 98. A method of facilitating the expansion of a firearm projectile assembly when said projectile assembly impacts with a target, comprising the steps of:

firing said firearm projectile assembly from a firearm;

impacting a target with an expansion-inducing tip of said firearm projectile assembly protruding forward of a front of a bullet of said firearm projectile assembly;

driving a core material within at least part of a hollow core running completely through said bullet from a front of said bullet subassembly to a rear of said bullet rearward relative to said hollow core, by transferring the impact through said expansion-inducing tip to said core material;

expanding said bullet substantially along its full length, via the compression of said core material caused by driving the core material rearward relative to said hollow core running completely through said bullet.

[c99] 99. The method of claim 98, said step of driving comprising driving said core material through an unfilled chamber cavity unfilled by said core material.

[c100] 100. The method of claim 98, said step of driving comprising driving said core material through said hollow core substantially filled with said core material.

[c101] 101. A method of producing varying weight bullets of given caliber and front-to-rear length, comprising the steps of:
producing a first bullet and a second bullet each of substantially identical caliber and front-to-rear length;
producing a predetermined first integral number greater than or equal to one of first circumferential belts recessed circumferentially into and around an outer surface of said first bullet, each first circumferential belt comprising a first depth and a first front-to-rear length, and each said first circumferential belt containing a first protective lubricant comprising a first

protective lubricant density thereof;
producing a predetermined second integral number greater than or equal to one of second circumferential belts recessed circumferentially into and around an outer surface of said second bullet, each second circumferential belt comprising a second depth and a second front-to-rear length, and each said second circumferential belt containing a second protective lubricant comprising a second protective lubricant density thereof;
causing said first bullet and said second bullet to comprise different weights from one another by varying at least one weighting parameter selected from the weighting parameter varying group consisting of: varying said second integral number relative to said first integral number; varying said second depth relative to said first depth; varying said second front-to-rear length relative to said first front-to-rear length; and varying said second protective lubricant density relative to said first protective lubricant density.

[c102] 102. The method of claim 101, further comprising the step of:
varying exactly one of said weighting parameters;
said exactly one weighting parameter consisting of said second depth relative to said first depth.

[c103] 103. The method of claim 101, further comprising the step of:
varying exactly one of said weighting parameters;
said exactly one weighting parameter consisting of second front-to-rear length relative to said first front-to-rear length.

[c104] 104. The method of claim 101, further comprising the step of:
varying at least two of said weighting parameters.

[c105] 105. The method of claim 104, the at least two varied weighting parameters

comprising:

said second depth relative to said first depth; and

said second front-to-rear length relative to said first front-to-rear length.

[c106] 106. The method of claim 101, further comprising the step of:
varying at least three of said weighting parameters.

[c107] 107. The method of claim 101, further comprising the step of:
varying all four of said weighting parameters.